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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,255

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Michael Andrew Yuratich

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EXAMINER

WRIGHT, GIOVANNA COLLINS

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,255	Applicant(s) YURATICH ET AL.	
	Examiner GIOVANNA C. WRIGHT	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,33,34,36-43 and 51-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-43 and 51-63 is/are allowed.
- 6) ☒ Claim(s) 1,4-9,33,34,36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1,4-9 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivas 6230810 in view of Liu 6388353 and Eno 5923111

Referring to claims 1,4, 7-8 and 33-34, Rivas discloses a method of pumping wellbore liquid comprising installing an electrical submersible centrifugal pump (see fig. 1, at 32) in a wellbore having a permanent magnet motor (30) that is sealed with respect to the wellbore liquid (col. 3, line 65-col. 4, line 5). Rivas does not disclose the motor is AC synchronous permanent magnet motor or operating the pump at 7000-7500 rpm. Liu teaches AC synchronous permanent magnet motor is known for use in downhole applications (see abstract). Eno teaches that permanent magnet motors can operation efficiently at higher rpms which allows smaller pump to be manufactured to be installed in a well (col. 1, lines 25-35). As it would be obvious to substitute one type of permanent magnet motor for another and it would be advantageous to save money on material by manufacturing a smaller pump, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the method disclosed by Rivas to operate the pump at 7000 –7500 rpm in view of the teachings of Liu and Eno.

Referring to claim 5, Rivas discloses (see fig. 1) recovering the liquid to the surface (at 76).

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Referring to claim 6, Rivas discloses transporting the liquid from a first location (at 26) to a second subterranean location (at 52).

Referring to claim 9, Rivas discloses the pump is operative to draw wellbore liquid from a plurality of lateral wellbores in to a central pump (see fig. 1).

2. Claims 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rivas 6230810 in view of Liu 6388353 and Eno 5923111, as applied to claim 1 and further in view of Koide et al. 6188196.

Referring to claim 36, Buchanan does not disclose a power supply of the motor is located at the surface which models operation of the motor and calculates a rotor position of the motor. Koide teaches a power supply for a motor that models operation of the motor and calculates a rotor position of the motor without sensors (col. 1, lines 15-20). This reduces costs by eliminating the need to run sensors downhole. It is also well known in the art to have a power supply for an electrical submersible pump on the surface. As it is well known in the art to have a power supply on the surface and it would be advantageous to reduce installation cost for the motor, it would be obvious to one of ordinary skill in the art at the time of the invention to further modify the method disclosed by Rivas, as modified by Liu and Eno, to have a power supply of the motor located at the surface which models operation of the motor and calculates a rotor position of the motor in view of the teachings of Koide.

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3. Claims 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rivas 6230810 in view of Liu 6388353 and Eno 5923111, as applied to claim 1 and further in view of Endo et al. 4879502.

Referring to claim 37, Rivas does not disclose a power supply of the motor comprises a variable voltage chopper. Endo teaches that voltage chopper is a known tool for controlling the voltage to a motor (col. 12, lines 40-45). As a voltage chopper is a known tool for controlling the voltage to a motor, it would be obvious to one of ordinary skill in the art at the time of the invention to further modify the method disclosed by Rivas, as modified by Liu and Eno, to have a variable voltage chopper in view of the teachings of Endo.

4. Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rivas 6230810 in view of Liu 6388353 and Eno 5923111 and Japanese Patent 2001238484 to Sato et al.

Referring to claim 64, Rivas discloses a method of pumping wellbore liquid comprising installing an electrical submersible centrifugal pump (see fig. 1, at 32) in a wellbore having a permanent magnet motor (30) that is sealed with respect to the wellbore liquid (col. 3, line 65-col. 4, line 5). Rivas does not disclose the motor is AC synchronous permanent magnet motor or operating the pump at 7000-7500 or the motor is a three phase motor and the three phases are continuously driven. Liu teaches AC synchronous permanent magnet motor is known for use in downhole applications

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(see abstract). Eno teaches that permanent magnet motors can operation efficiently at higher rpms which allows smaller pump to be manufactured to be installed in a well (col. 1, lines 25-35). Sato teaches three phases are continuously driven by a cyclically smoothly varying non-sinusoidal voltage (trapezoidal wave) applied to the corresponding motor phase in order help to reduce vibration (see Abstract). As it would be obvious to substitute one type of permanent magnet motor for another and it would be advantageous to save money on material by manufacturing a smaller pump and to reduce vibration, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the method disclosed by Rivas, to have an AC synchronous permanent magnet motor, to operate the pump at 7000 –7500 rpm and to have a three phase motor where the three phases are continuously driven in a cyclically smoothly varying non-sinusoidal voltage in view of the teachings of Liu, Eno and Sato.

Allowable Subject Matter

Claims 38-43 and 51-63 are allowed.

Response to Arguments

Applicant's arguments with respect to claims 1,4-9, 33-34 and 36-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GIOVANNA C. WRIGHT whose telephone number is (571)272-7027. The examiner can normally be reached on 7:30-4 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Giovanna C. Wright/
Primary Examiner, Art Unit 3672